

APPENDIX F

Revisions to the 1992 and 1994 Findings

Following the release of the *1994 NAEP Reading: A First Look* report in April 1995, two technical problems were discovered in the procedures used to develop the NAEP reading scale and achievement levels. Errors were associated with the scale scores computed by the NAEP contractor, the Educational Testing Service (ETS), and the achievement levels developed by the American College Testing Program (ACT). These errors affected the 1992 and 1994 NAEP reading assessment results. The National Center for Education Statistics (NCES) and the National Assessment Governing Board (NAGB) have evaluated the impact of the errors and have taken steps to reanalyze and rereport findings from both reading assessments. The first step in correcting the technical errors is to revise and release this report.

The two technical problems that were discovered are discussed in greater detail in the NAEP 1994 *Technical Report* and the *Technical Report of the NAEP 1994 Trial State Assessment in Reading*. A brief summary is presented below.

The first technical problem arose from an error in the computer program used to compute NAEP scale score results. The error involved the convention used in treating omitted responses in the IRT scaling of the partial-credit, constructed-response questions. It was limited only to those questions. As a result of the error, in 1992 and 1994 NAEP reading analyses, all blank responses (both omitted and not-reached responses) to affected questions were treated as missing — an acceptable treatment but not the conventional option of choice for NAEP. Upon discovery of the problem, ETS and NCES

quickly took steps to rectify the problem. Both the national and state assessment results were recalculated using the intended convention for the treatment of omitted responses.

In general, the effect of this technical problem on the previously reported 1992 NAEP reading findings is minimal and had little impact on policy-related interpretations. The recalculated 1992 and 1994 reading scale score results, at both the national and state levels, are quite similar to those published in the 1992 reading reports and the initial version of this report.

The second technical problem is related to the development of the NAEP reading achievement level cut scores. The error involved the mapping of the NAGB-approved achievement levels onto the NAEP reading scale. In deriving the final levels recommended to the Board, panelists' ratings for the multiple-choice and constructed-response questions were combined to obtain an overall rating for the questions. In combining the ratings, the ratings are weighted according to the amount of information provided by each type of question. In other words some of the questions “count more” toward the overall cut scores than others. The weighting was carried out incorrectly, resulting in the constructed-response questions receiving more weight than intended. Therefore the cut scores established by mapping the achievement levels onto the NAEP reading scale were incorrect and the percentages of students at or above these levels were incorrectly estimated. The weighting and scaling errors contributed to these incorrect estimates.

The program that mapped the achievement levels to the NAEP scale was promptly corrected by ACT to appropriately weight the constructed-response questions and revised achievement level cut scores based on the corrected scaling procedures were developed. The net effect was to lower the cut scores for the three achievement levels at each grade. The percentages of students at or above the achievement levels were recalculated using the corrected cut scores and the revised 1992 and 1994 percentages, for both the national and state assessments, are presented in this report.